



Network Camera VB-C50Fi

■ What is the Network Camera VB-C50Fi ?

The VB-C50Fi is a fixed network camera with built-in network server, designed for those who seek the highest standard in performance and style.

Superior image quality

The VB-C50Fi features precision Canon optics and leading-edge imaging technology for smooth, high quality video capture.

Ultra-stylish, ultra-versatile

Compact, sophisticated design makes it perfect for use in the most stylish of environments.

Extensive networking functionality

Connects directly to an IP network to capture and transmit live video over local networks and the Internet. Functions include motion detection, image recording, scheduling and more.



■ Key Features at a Glance

□ Camera performance

- Class-leading 26x optical zoom plus 12x digital zoom
- Superior low light color capture for color imaging with only 1 lux illumination

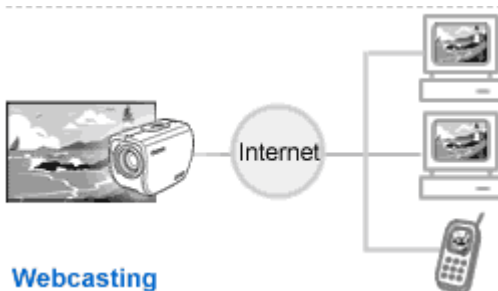
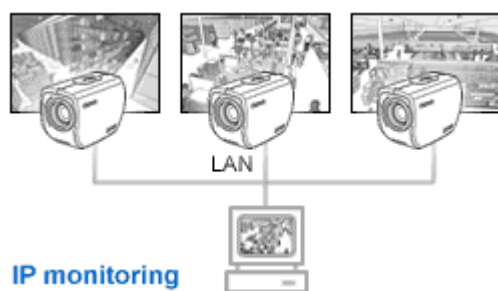
□ High-performance server for live video transmission

- Smooth, high-quality digital video: 640 x 480 pixels at 30 frames per second
- Multistreaming capability: simultaneous video transmission at varying picture sizes (640 x 480, 320 x 240, or 160 x 120) for viewing on a PC, PDA, or cellular phone

□ Motion detection and connection to external devices, scheduling functions

- Motion detection and sensor-triggered actions for output to external devices such as alarms and lamps (using the optional Multi-Terminal Module VB-EX50)
- Scheduling functions for motion detection, image recording, email notification, and more

■ Live Video Over Networks

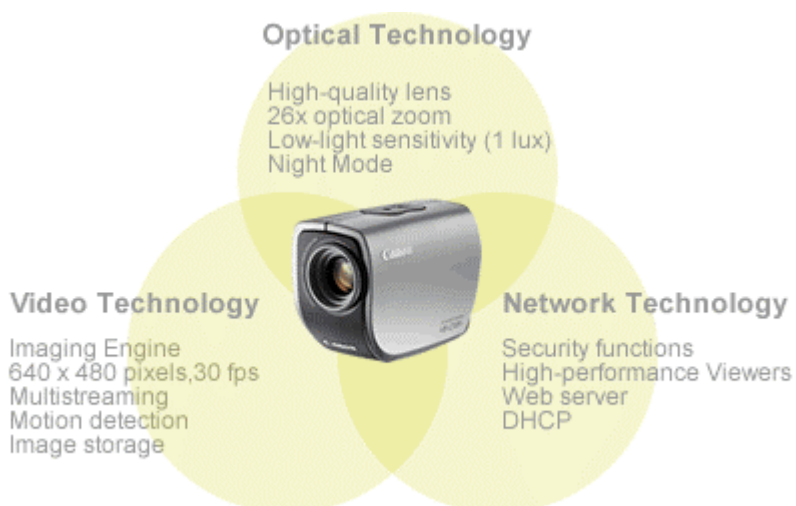


The VB-C50Fi supports various protocols, which enables easy connection to practically any network. Once connected, the VB-C50Fi delivers superior performance for **IP monitoring** (network-based security monitoring), **webcasting**, and other applications.

Network connection	Ethernet 10/100Base-TX, auto negotiation
Compatible protocols	TCP/IP, DHCP, HTTP, FTP, NTP, DDNS
Simultaneous client access	Up to 50 clients simultaneously

■ Synergy of Superior Technology

Canon's superior optical, video, and network technologies come together in the VB-C50i, a first-class solution to live video transmission needs.



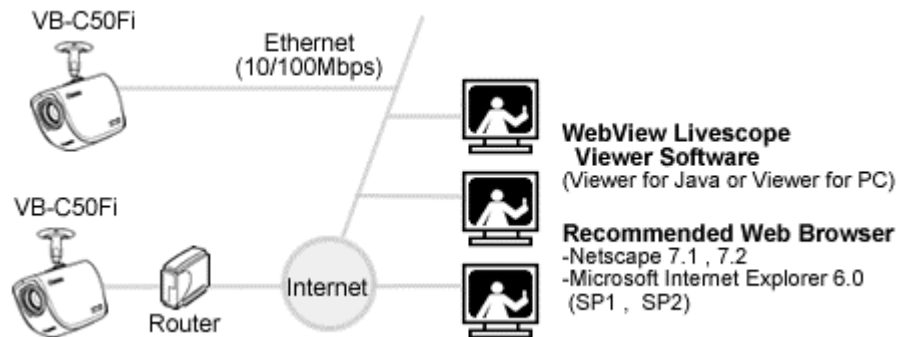
■ System Configuration

This system configuration consists of the VB-C50Fi with [Viewer Software](#). The Viewer software consists of the Viewer for PC and the Viewer for Java.

Viewer for PC must be installed in advance from the supplied CD-ROM or [the Web Page](#), while Viewer for Java is not installed in advance but automatically downloaded from the VB-C50Fi. Since Viewer for Java is downloaded each time you want to view videos, it is useful when viewing videos for the first time. Viewer

for PC, however, is more convenient when you want to view video frequently.

If you want to distribute live videos of places such as popular tourist destinations from Web pages, it is best for your Web page visitors to use the Viewer for Java that does not need be to installed in advance.



Network Camera VB-C50Fi - Superior Image Quality

- [26x Optical Zoom](#)
- [Zoom Presets](#)
- [Advanced Signal Processing](#)
- [Image Adjustment Control](#)
- [Shade Correction](#)

□ 26x Optical Zoom



The VB-C50Fi features a Genuine Canon zoom lens with 26x

zoom magnification.

□ Zoom Presets

Up to 10 preset zooming distances can be programmed to enable different views of a scene. Fast autofocus ensures a seamless transition when the camera alternates between zoomed in and zoomed out views.

□ Advanced Signal Processing



Clear images even in very dim conditions

Color video with only 1 lux illumination

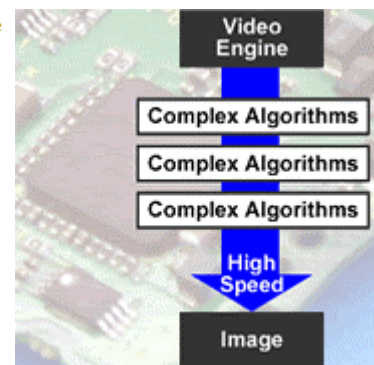
Offering class-leading low-light performance, the VB-C50Fi is able to capture color video with as little as 1 lux* of illumination. Noise reduction keeps the image clear at any level of lighting.

The VB-C50Fi comes equipped with a high-performance 1/2-inch CCD image sensor for exceptional responsivity, excellent light sensitivity, sharp images, and few pixel distortions. Some network cameras use CMOS sensors, which are easier and cheaper to produce, but fall short in image quality - especially in difficult lighting conditions.

*Imaging at 1 lux requires a shutter speed of 1/30 sec.

New DIC2SK imaging engine for high - quality motion capture

The VB-50Fi features Canon's exclusive high-speed DIC2SK signal processor - the critical component behind its unmatched video quality. Based on high-end digital camera technology and improved upon for video, DIC2SK employs several complex algorithms to efficiently process the signals received by the CCD. Super-fast processing not only allows for smooth, clear motion capture, but also results in video with amazing color fidelity and dramatically reduced noise.



□ Image Adjustment Controls

Video capture can be optimized for many different situations thanks to a wide range of automatic and manual settings.

Available settings

- Automatic exposure control
- Manual exposure control: shutter speed, aperture, and gain
- Manual focusing
- Noise reduction
- Backlight compensation (3 levels)
- Automatic white balance



Backlight compensation makes subjects more visible.

Shade Correction

The new Shade Correction function enhances images that are backlit, making dark subjects easier to see while preventing the whitening of image detail in bright areas.

It offers a more detailed view of the whole scene - subjects in both the foreground and background are clearly visible.



Backlight Compensation vs. Shade Correction

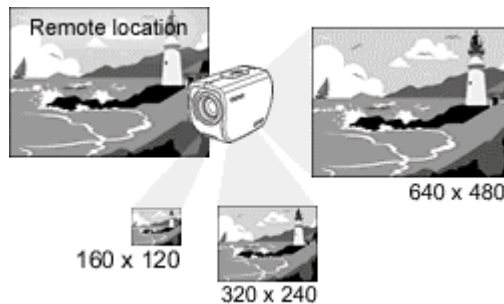
Backlight Compensation	Shade Correction
Brightens the whole image	Brightens only the dark areas of an image
Performed by the camera	Performed by Admin Viewer software
Adjusted image is transmitted to all clients viewing the image	Adjusted image can be viewed only on the host PC through Admin Viewer
Works for live video only	Works for live and recorded video

Network Camera VB-C50Fi - Functions

- Multistream Video Transmission
- Motion Detection
- Motion Detection in Detail
- Advanced Scheduling Functions
- Image Storage Functions

- Other Features

□ Multistream Video Transmission



The VB-C50Fi captures high-quality video (640 x 480 pixels, 30 fps). However, not all viewers may want or be able to receive such high-resolution video. A smaller-sized image may be just fine for viewers with slow network connections or video-enabled mobile phones, for example.

To better handle a diverse range of user needs, the VB-C50Fi is able to broadcast the same video in three different sizes. Viewers can request which size they want.

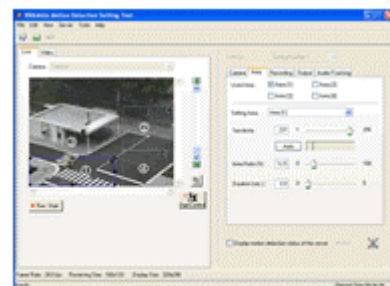
□ Motion Detection

Four areas can be selected for motion detection. (Areas may overlap.) The VB-C50Fi can start a specified action such as image recording when movement is detected in an area. Sensitivity, area ratio, and duration of detected movement can be independently set for each of the four areas.

Sensitivity: The larger the numeric value, the higher the degree of sensitivity.

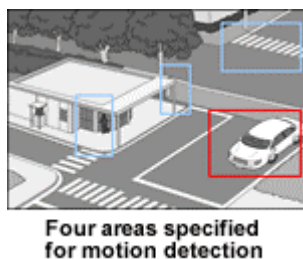
Area ratio: The proportion of the motion detection area to the area of the selected detection area frame.

Duration: When motion exceeds the area ratio and continues longer than the set duration time, the device detects motion.



**Motion Detection Setting Tool
(Found in VB Administration Tools)**

□ Motion Detection in Detail



Independent settings for each area

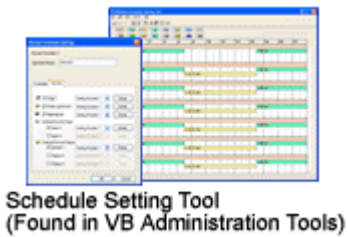
In a single monitoring scene, some types of movement may be more common to one area than another. This is why the VB-C50Fi lets users set different values in each area for how much motion is required to trigger the VB-C50Fi.

Example

The red area could be set so that it's only sensitive to unusual car movement. Therefore, a person walking through this area will not be detected because he or she is too small. Also, a car moving at a speed normal to this area will not be detected. Instead, the VB-C50Fi will be triggered only if something as large as a car moves faster than normal through this area.

□ Advanced Scheduling Functions

The Schedule Setting Tool provides various camera actions which can be activated on a specific day of the week or at specific times of the day.



The Multi-Terminal Module VB-EX50 (sold separately) is required to connect external devices to the VB-C50Fi.

Timer	Still images are captured at specified times and stored in the camera's built-in memory.
Motion detection	The camera can be set to record images or trigger an external device when motion is detected within the picture. (The VB-C50i/C50iR can additionally be set for audio playback and auto-tracking.)
Night Mode	Settings can be made for low light image capture.
External Device Input	Sets camera operation for external device.
External Device Output	Sets the output time to external devices and the repetition interval, etc.

□ Image Storage Functions

The VB-C50Fi is equipped with an internal RAM disk for temporary storage of up to 15MB of captured images, and features several functions related to image storage.

Available functions

- Minimum storage intervals: 10 fps on contact with an external sensor or motion detection, 1 fps continuous capture
- E-mail notification if a sensor is triggered or if motion is detected (text-only email or email with an image attached)



- When the VB-C50Fi approaches its storage limit, it sends a warning message to a designated PC. Captured images are then automatically downloaded to this PC.

□ Other Features

Easy network setup and management

- Automatic IP settings using DHCP
- Registration of DDNS and host name
- Auto setting of HTTP proxy
- Specify maximum packet size
- Network bandwidth control



Network bandwidth control
(Viewer software)
Restrict video transmission from 1 to 10 Mbps

Security and privacy features

- View restriction
- Host access restriction
- Password protected camera access

Other

- Camera access and control from an Internet-enabled mobile phone
- Web page generation

Camera Unit	
Video Signal	Conforms to NTSC/ PAL
Image Sensor	1/4-inch CCD
Number of Pixels	[NTSC] use: 340,000 (effective 630,000) [PAL] use: 400,000 (effective 740,000)
Lens	f=3.5 - 91.0mm F 1.6 - 4.0 26x power zoom (shooting at infinity)
Lens Filter Diameter	37 mm, pitch=0.75 mm

Focusing	Auto/Manual Wide-angle: 0.01m to inf. Telephoto: 1.6m to inf.(Wide-angle: 0.02m to inf. Telephoto: 2.3m to inf. with night mode)
Horizontal Field of View	42°(W)X1.7°(T)
Drive:Pan	Not Available
DriveTilt	Not Available
Angular Speed	-
Minimum subject Illumination	Normal mode: 1lux (at 1/30 sec.)
Imaging Mode	Normal/Night mode (manual or schedule-based switch)
Aperture	Auto iris servo system
Infrared Cut Filter	Power-driven insertion/removal (normal mode/night mode)
Night mode:IR light	Not Available
Night mode:Effective Lighting Range	Not Available
Backlight Compensation	3 levels
Server	
Protocol	TCP/IP, HTTP, DHCP, FTP, WebView (Canon original)
Video Compression Method	Motion-JPEG (for video), JPEG (for still pictures)
Image Sizes	640X480/320X240/160X12 0
Video Quality	10 levels
Max. Capture Frame Rate	30fps(640X480)

Traffic Control	0.1fps ~ 30fps (variable)
Simultaneous Client Access	50
Connection Restrictions	Access control (password), video connection time, service time, Max. number of simultaneous connections (up to 50)
Camera Control	Yes (exclusive control, control time restriction, number of waiting clients)
Preset	10 positions
Preset Tour	Yes
Home Position Function	Yes
View Restriction	Yes
Motion Detection	Yes
Automatic Tracking	Not Available
Shade Correction	Yes
Recording:Memory for Recording	RAM (Approx. 15MB)
Recording:Email with image	Yes
Recording:Pre-Event	Configurable 1 ~ 10fps up to 10 sec.
Recording:Between Events	Configurable to 1fps when motion detected
Recording:Post-Event	Configurable 1 ~ 10 fps up to 10 sec.
Recording:Schedule-based	1fps per second (Max.)
Display/Control of pictures	External PC (using the bundled VBCollector)

Audio:Compression Method	Not Available
Audio:Audio IN/OUT	Not Available
Audio:Audio Playback	Not Available
Viewer	
Bundled (free)	Viewer for Java, Viewer for PC, Admin Viewer
Optional	Network Video Recorder VK-64/VK-16 v1.1 WebView Livescope MV/LE V2.1 (Limited Edition) Viewer for Pocket PC (Limited Edition)
Interface	
Network	EthernetX1 (RJ45, 100Base-TX/10Base-T auto negotiation)
Multi-connector	Connector for Multi-Terminal Module VB-EX50 (option)
Connection with External Devices	
Number of External I/O devices	IN: 2/OUT:3 (using the optional Multi-Terminal Module VB-EX50)
Recording Trigger	Schedule, motion detection, external device input sensor
Contact Output Method	Linked with External device input sensor or motion detection/manual
Spec.	
Operating Environment	Temperature 0-40°C, Humidity 20-85% RH

	(condensation free)
Dimensions	66.2(W)X134.2(D)X97.0(H) (excluding attachments)
Weight	Approx. 480g
Power Supply	AC100V±10% using the supplied AC Adapter Camera Unit: DC13V 1.8A (Max)
Power Consumption	Standby: About W, Max.: About 25W

Supplied AC Adapter

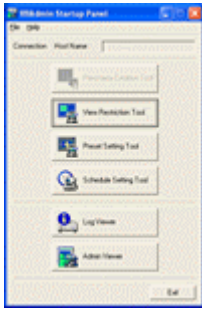
Model	PA-V16
Input	AC100-240V 50/60Hz
Output	DC13V 1.8A (Max.)
Polarity	Exterior (-) Interior (+)
Dimensions	58.0(W)X118.0(D)X25.0(H) (excluding attachment)
Weight	Approx. 230g

Network Camera VB-C50Fi - Bundled Software

- [VB Administration Tools: Main Features](#)
- [VB Collector: Main Features](#)
- [Viewer Software: Admin Viewer Ver. 3.6](#)
- [Viewer Software: Viewer for PC Ver. 3.6](#)
- [System Requirements](#)

□ VB Administration Tools: Main Features

The VB Administration Tools are a collection of six separate modules.



View Restriction Tool	Set restrictions on the zoom range that viewers can access.
Preset Setting Tool	Set preset zoom positions, which enable viewers to easily control the camera by selecting a desired preset. Settings for Preset Tours can also be made.
Schedule Setting Tool	Set up Timer, Motion Detection, Night Mode, External Device Input, and External Device Output services to automatically perform on a specified day of the week or at a certain time of day.
Log Viewer	Allows viewing and searching of a camera activity log file.
Admin Viewer	Features special privilege functions such as exclusive access to camera control functions, and external device and motion detection operation.



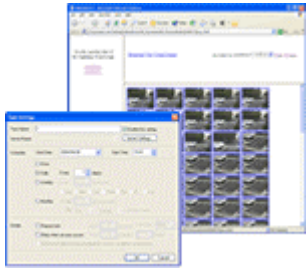
The Panorama Creation Tool is only available for the VB-C50i/VB-C50iR.

□ VBCollector: Main Features

VB Collector Ver. 2.1 makes it possible for images stored in the VB-C50Fi's internal memory to be automatically downloaded to a PC.

Features

- Schedule-based downloading of captured images to a PC.
- When the storage limit of the camera is nearly reached, a warning is sent to the server and stored images are then auto-matically downloaded to a PC.
- Downloaded images can be viewed on a Web browser.
- Animated playback of stored images.



□ Viewer Software: Admin Viewer Ver. 3.6

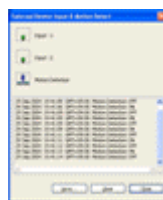
Admin Viewer is a viewing application for network camera administrators. In addition to giving users control of camera functions and video display, the software provides added monitoring functionality.

Pause/Restart Button
External Device Output
External Device Input and Motion Detection
Advanced Camera Control
Camera-specific features
Camera-specific features



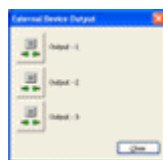
Pause/Restart Button

Pauses video during play, or starts play if currently stopped.



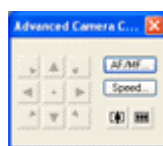
External Device Input and Motion Detection

Monitor motion detection and external device status. Press to view a window that logs when unusual motion is detected or when external devices are triggered.



External Device Output

Change the ON/OFF status of external device output.



Advanced Camera Control

Admin Viewer provides camera controls not available in Viewer for PC and Viewer for Java.

AF/MF: Select auto / auto for domes / fixed at infinity / manual focus or manual focus

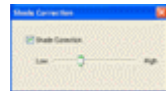
Speed: Set camera operation speed

Note: Pan/tilt/home buttons are only available when using PTZ cameras such as the VB-C50i/C50iR.



Camera-specific features

Set camera-specific features such as settings for exposure, digital zoom and night mode.



Shade Correction

When the background of an image is bright, making the subject difficult to see, you can adjust the contrast of the dark areas to make the subject more visible. Unlike backlight compensation, image adjustment of bright areas is restrained to prevent whitening of the background.

□ Viewer Software: Viewer for PC Ver. 3.6

Viewer for PC lets users remotely view captured video and perform camera control functions from virtually any network-connected Windows PC. Users can modify video display settings, save and print still images, and more.

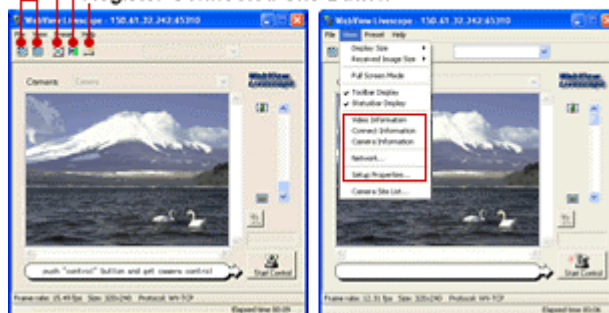
Detailed information about the connected network camera can be accessed from the View menu. Useful for checking up on camera settings and network traffic, users can ensure optimal networking performance.

Video Source Size Change Button

Full Screen Mode Button

Pause/Restart Button

Register Connected Site Button



Video Source Size Change Button

Makes the displayed video resolution one level coarser or smoother. Making the image coarser increases the frame rate, while making it smoother improves the video quality.



Full Screen Mode Button

Displays the video at full-screen size. Pressing the [Esc] key returns the view to the original video size.



Pause/Restart Button

Pauses video during play, or starts play if currently stopped.



Register Connected Site Button

Lets you register a camera site during connection.

Video Information

Frame rate, size, captured image size, compression type.

Connection Information

Protocol, video [WV-TCP], camera control [WV-TCP], video/camera [WV-HTTP], proxy, local time

Camera Information

Pan, tilt, zoom, backlight compensation, camera model (The VB-C50Fi does support pan/tilt movement.)

Network

Network bandwidth indicator, video data restriction

Setup properties

1. Starting protocol
Connect to a camera server by the WV-TCP protocol or the WV-HTTP protocol
2. HTTP Protocol
Settings for connecting by the WV-HTTP protocol
3. Display
Set video display size used at startup

□ System Requirements

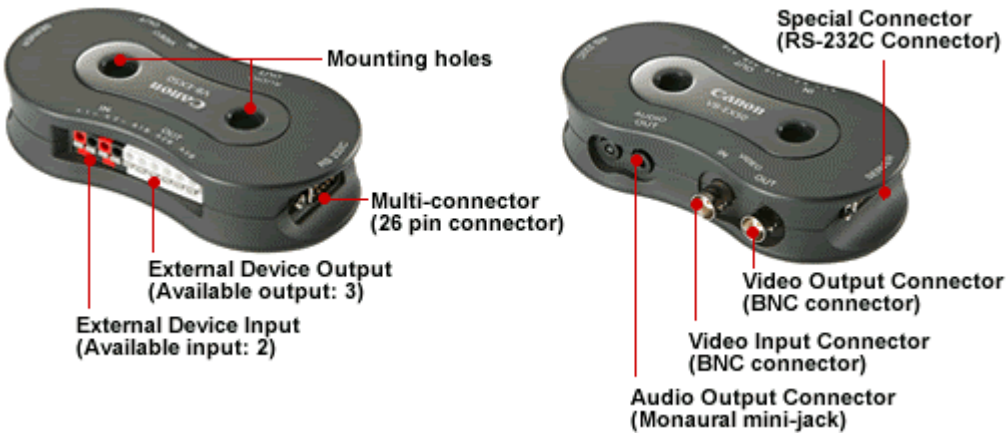
VB Administration Tools Ver. 2.1	
OS	Windows 2000 (SP4), Windows XP (SP1a or SP2)
Web Browser	Microsoft Internet Explorer 6.0 (SP1 or SP2)
VBCollector Ver. 2.1	
Web Browser	Microsoft Internet Explorer 6.0 (SP1 or SP2) Netscape 7.1 or 7.2
Hard Disks	20 GB HDD or greater required (NTFS formatted)
Viewer Software (Viewer for PC Ver. 3.6)	
OS	Windows 2000 (SP4), Windows XP (SP1a or SP2)
Web Browser	Microsoft Internet Explorer 6.0 (SP1 or SP2), Netscape 7.1 or SP2
Viewer Software (Viewer for Java Ver. 3.6)	
Web Browser	Microsoft Internet Explorer 6.0 (SP1 or SP2), Netscape 7.1 or SP2
Java VM	MSVM Release 5.0.0.3810 (Java VM provided by Microsoft) Java Plug-in 1.4.2 (Java VM provided by Sun Microsystems)

■ Multi-Terminal Module VB-EX50

The optional Multi Terminal Module VB-EX50 enables connection of various types of external devices to the VB-C50Fi for image recording triggered by an external device, for example.

Connector types

- Video In/Out for analog video cameras already in use
- External Sensor In/Out for sensors and alarms



The VB-C50Fi does not support audio input or output.

Mounting holes	Upper hole:f 8mm (5/16in.) Max. Lower hole:f 4.5mm (11/64in.) Max.
Multi-connector (26 pin connector)	Connecting to the VB-C50Fi via a multi-cable (supplied with the Multi-Terminal Module VB-EX50).
External Device Input (Available input: 2)	Connecting with external devices.
External Device Output (Available output: 3)	Connecting with external devices.
Video Output Connector (BNC connector)	Connecting with a display. Note that this is a video output from the VB-C50Fi.
Video Input Connector	Connecting with an external camera.

(BNC connector)	
Audio Output Connector (Monaural mini-jack)	Connecting with a speaker with built-in amplifier.
Special Connector (RS-232C Connector)	This Connector will not be used.

□ Specification

Dimensions	28.4mmx128mmx66mm 1 1/8 x 5 1/32 x 2 19/32 in.(HxWxD)
Weight	Approximately 135g (excluding the multi-cable)
Operating Environment	Temperature: 0 - 40 °C, Humidity: 20 - 85% RH (condensation free)

■ Wide Converter WL-37

Lens magnification: 0.74x
Expands field of view to to 65°



VB-C50Fi with the Wide Converter
WL-37 attached